



M-Series Touchcomputer User Guide

M-Series LCD Multi-function Touchcomputer

[19" model shown with optional accessories]

Elo Touch Solutions

M-Series Touchcomputer for Healthcare

Applications User Guide

Multi-function Touchcomputer

Revision A

SW200069

1-800-ELOTOUCH (1-800-356-8682)
www.elotouch.com



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Warnings and Cautions



Warning

- Danger - Explosion hazard. Do not use in the presence of flammable anesthetics, and other flammable materials.
- To prevent fire or shock hazards, do not immerse the unit in water or expose it to rain or moisture.
- Do not use the unit with an extension cord receptacle or other outlets unless the prongs of the power cord can be fully inserted.
- RISK OF ELECTRICAL SHOCK - DO NOT OPEN. To reduce the risk of electrical shock, DO NOT remove the back of the equipment or open the enclosure. No user-serviceable parts are inside. Refer servicing to qualified field service engineers only.
- Uninsulated voltage within the unit may have sufficient magnitude to cause electrical shock.

Avoid contact with any part inside the unit.

- This device complies with the electromagnetic emission and immunity standards and is limited to the standards that are listed on pages 41 and 45. Other devices which are not designed to withstand emission levels as specified in the medical device standards may be susceptible to interference from this device. Subjecting the device to conditions beyond the rated performance capabilities may result in emissions in excess of the standard. If it is determined that this device produces electromagnetic or other interference it must be disconnected from power until the cause of the problem has been determined and resolved. If it is determined that this device is functioning improperly due to electromagnetic and other interference it must be disconnected from power until the cause of the problem has been determined and resolved.
- Elo Touch Solutions recommends that after its useful life (or after sustaining unrepairable damage), customers dispose of the touchcomputer and its power supply in an environmentally sound manner. Acceptable methods include the reuse of parts or whole products and the recycling of products, components, and materials. Please consult and obey national state, and local laws and ordinances governing the safe disposal of electronic equipment.
- Do not modify this equipment without authorization of the manufacturer.

This product consists of devices that may contain mercury, which must be recycled or disposed of in accordance with local, state, or federal laws.



Caution

- Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord.
- This unit must follow the national requirement and local state laws to dispose unit.
- Before connecting the cables to your Elo touchcomputer, make sure all components are powered OFF.
- Only approved components complying with IEC 60601-1 series can be connected to 15MX/19MX Touchcomputer for Healthcare Applications in Patient Environment. The use of ACCESSORY equipment not complying with the equivalent safety requirements of this equipment may lead to a reduced safety of the resulting system. Consideration relating to the choices of accessory equipment should include: Use of accessory in the patient environment: Evidence that the safety certification of the accessory has been performed in accordance to the appropriate IEC 60601-1 and/or IEC 60601-1-1 harmonized national standard.
- For continued safety
 - This unit only complies to the above standards if used with a medical grade power cord.
 - A medical grade power supply, such as the one specified, is required for use in a medical application.
- Please do not touch the patient and the touchcomputer output connector at the same time.
- The touchmonitor is to be used with following adaptor:
 1. XP Power / AHM85PS12
 - or
 2. Elo Touch Solutions / FSP110-RAAM

Disposing of your old product

Within the European Union



EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product, or if applicable, follow any agreements made between yourself and the supplier of this product.

The mark on electrical and electronic products only applies to the current European Union Member States.

Elo Touch Solutions recommends that after its useful life (or after sustaining unrepairable damage), customers dispose of the touchcomputer and its power supply in an environmentally sound manner. Acceptable methods include the reuse of parts or whole products and the recycling of products, components, and materials. Please consult and obey national, state, and local laws and ordinances governing the safe disposal of electronic equipment.



Explanation of Symbols:



- This symbol alerts the user to important information concerning the operation and maintenance of this unit, which should be read carefully to avoid problems.



- This symbol means DC Current.



- This symbol means ON/OFF stand-by switch.



- Consult instructions for use.

Medical and Healthcare Application Disclaimer:

It is the sole responsibility of any person intending to commercialize, market or use any of Elo Touch Solutions, Inc. products for medical or healthcare applications to ensure that such product is adequate and appropriate for the person's intended use and complies with all applicable laws, regulations, codes and standards including but not limited to the European Union Medical Device Directive, United States Federal Food, Drug, and Cosmetic Act, regulations of the United States Food and Drug Administration (FDA), and for obtaining and maintaining any required regulatory approvals including but not limited to any required market clearances. Elo has not sought nor received any rulings from the FDA or any other federal, state, or local government agency or notified body as to the safety, effectiveness or appropriateness of its product for such applications. Persons intending to evaluate or use Elo's product for medical or healthcare purposes must rely on their own medical and legal judgment without any representation on the part of Elo.



Classification

With respect to electrical shock, fire in accordance with ANSI/AAMI ES60601-1 and CAN/CSA-C22.2 No. 60601-1

This touchcomputer is a Class I (GROUNDED) DEVICE.

This touchcomputer is classified NO APPLIED PARTS EQUIPMENT.

Protection against harmful ingress of water:

INGRESS PROTECTION (IP21)

This touchcomputer shall be classified as ORDINARY EQUIPMENT, not intended or evaluated for use in the presence of flammable anesthetic mixture with air, oxygen, or nitrous oxide.

Mode of Operation: CONTINUOUS OPERATION.

Environmental conditions for transport and storage

Temp.	Operating	0°C to 35°C
	Storage / Transportation	-30°C to 60°C

Humidity (non-condensing)

Operating	20% to 80%
Storage / Transportation	5% to 95%

Altitude

Operating	0 to 2,000m
Storage / Transportation	0 to 12,192m

15MX/19MX Touchcomputer for Healthcare Applications is intended for general use in hospital environment for data collection and display for reference. It shall not be used with life-supporting system

For full Product Specifications refer to Appendix C



European Standards and Classifications

Standards: EN 60601-1-2: 2007

The EMC limits and test methods are referred to the following standards:

Emission:	Immunity
CISPR 11: 2009+A1:2010	IEC 61000-4-2: 2008
EN55011: 2009+A1: 2010 (Group 1, Class A)	IEC 61000-4-3: 2006+A1:2007+A2:2010
IEC 61000-3-2: 2005+A1:2008+A2:2009	IEC 61000-4-4: 2011
IEC 61000-3-3; 2008	IEC 61000-4-5: 2005
	IEC 61000-4-6: 2008
	IEC 61000-4-8: 2009
	IEC 61000-4-11: 2004


Guidance and manufacturer's declaration-electromagnetic immunity for all EQUIPMENT AND SYSTEMS

Guidance and manufacturer's declaration-electromagnetic emissions		
The 15MX/19MX Touchcomputer for Healthcare Applications is intended for use in the electromagnetic environment specified below. The customer or the user of the 15MX/19MX Touchcomputer for Healthcare Applications should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment-guidelines
RF emissions CISPR 11	Group 1	The 15MX/19MX Touchcomputer for Healthcare Applications uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class A	The 15MX/19MX Touchcomputer for Healthcare Applications is suitable for use in all establishments other than domestic and those directly connected to a low voltage power supply network which supplies buildings used for domestic purposes.
Harmonics emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacturer's declaration-electromagnetic immunity for all EQUIPMENT AND SYSTEMS

Guidance and manufacturer's declaration-electromagnetic immunity			
The 15MX/19MX Touchcomputer for Healthcare Applications is intended for use in the electromagnetic environment specified below. The customer, or the user of the 15MX/19MX Touchcomputer for Healthcare Applications, should assure that it is used in such an environment.			
Immunity Test	IEC 60601	Compliance Level	Electromagnetic Environment-Guidelines
Electrostatic Discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity
Electrical Fast Transient/Burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	2 kV for power supply lines ± 1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage Dips, Short Interruption and Voltage Variations on Power Supply Input Lines IEC 61000-4-11	<5% <i>UT</i> (>95% dip in <i>UT</i>) for 0.5 cycle 40% <i>UT</i> (60% dip in <i>UT</i>) for 5 cycles 70% <i>UT</i> (30% dip in <i>UT</i>) for 25 cycles <5% <i>UT</i> (>95% dip in <i>UT</i>) for 250 cycles	<5% <i>UT</i> (>95% dip in <i>UT</i>) for 0.5 cycle 40% <i>UT</i> (60 % dip in <i>UT</i>) for 5 cycles 70% <i>UT</i> (30% dip in <i>UT</i>) for 25 cycles <5% <i>UT</i> (>95% dip in <i>UT</i>) for 250 cycles	Mains power quality should be that of a typical commercial or hospital environment. If the user of the 15MX/19MX Touchcomputer for Healthcare Applications requires continued operation during power mains interruptions, It is recommended that the 15MX/19MX Touchcomputer for Healthcare Applications be powered from an uninterruptible power supply or a battery.
Power Frequency (50/60 Hz) Magnetic Field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE <i>UT</i> is the A.C. mains voltage prior to application of the test level.			

Guidance and manufacturer's declaration-electromagnetic immunity for all EQUIPMENT AND SYSTEMS that are not LIFE-SUPPORTING

Guidance and manufacturer's declaration-electromagnetic immunity			
The 15MX/19MX Touchcomputer for Healthcare Applications is intended for use in the electromagnetic environment specified below. The user of the 15MX/19MX Touchcomputer for Healthcare Applications should assure that it is used in such an environment.			
Immunity Test	IEC 60601	Compliance Level	Electromagnetic Environment-Guidelines
Conducted RF	3 Vrms	3 Vrms	<p>Portable and mobile RF communications equipment should be used no closer to any part of the 15MX/19MX Touchcomputer for Healthcare Applications and should assure that it is used in such an environment, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance</p> $d=1.2\sqrt{P}$ $d=1.2\sqrt{P} \quad 80\text{MHz to } 800 \text{ MHz}$ $d=2.3\sqrt{P} \quad 800 \text{ MHz to } 2.5\text{GHz}$ <p>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres(m)</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey¹, should be less than the compliance level in each frequency range². Interference may occur in the vicinity of equipment marked with the following symbol:</p> 
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 Vrms	

NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

3. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the 15MX/19MX Touchcomputer for Healthcare Applications is used exceeds the applicable RF compliance level above, the 15MX/19MX Touchcomputer for Healthcare Applications should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the 15MX/19MX Touchcomputer for Healthcare Applications.

4. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 Vrms.

Recommended separation distances between portable and mobile RF communications equipment and the 15MX/19MX Touchcomputer for Healthcare Applications for all EQUIPMENT AND SYSTEMS that are not LIFE-SUPPORTING

The 15MX/19MX Touchcomputer for Healthcare Applications is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the 15MX/19MX Touchcomputer for Healthcare Applications can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications (equipment) and the 15MX/19MX Touchcomputer for Healthcare Applications as recommended below according to the maximum output power of the communications equipment.

Rated Maximum Output Power of Transmitter (W)	Separation Distance According to Frequency of Transmitter		
	150 kHz to 80 MHz $d=1.2\sqrt{P}$	80MHz to 800 MHz $d=1.2\sqrt{P}$	800 MHz to 2.5 GHz $d=2.3\sqrt{P}$
0.0 1	0.1 2	0.1 2	0.23
0. 1	0.3 7	0.3 7	0.74
1 2	1. 2	1. 2	2.3
1 3	3. 7	3. 7	7.4
10 0	1 2	1 2	23

For transmitters rated at a maximum output power not listed above, the recommended separation distanced in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

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1

SETUP

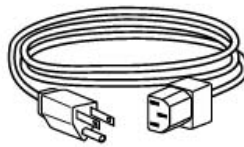
This chapter discusses how to set up and test your touchcomputer. For information on peripheral options, refer to Chapter 3, “Options and Upgrades.”

Unpacking Your Touchcomputer

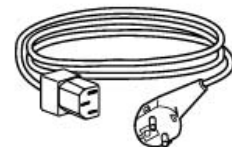
Check that the following items are present and in good condition:



Touchcomputer



Power cable US/Canada



Power cable Europe



12VDC Medical Grade
Power Supplier Brick



CD



5 meter DC cable

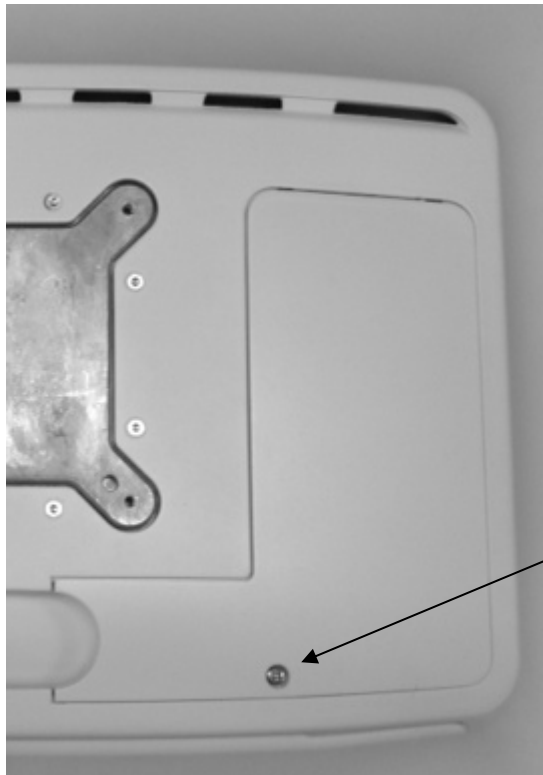
Touchcomputer Operating System

The touchcomputer may be delivered without an operating system. An operating system must be installed before many of the features of the touchcomputer can be used.

The hardware used on the touchcomputer is compatible with many common operating systems.

Accessing the Hard Disk

The hard disk is factory installed and located under the hard disk cover on the back of the unit. To access the hard drive remove the one screw holding the cover in place and remove the hard drive bracket to access the hard drive if necessary.



Remove this screw to gain access to the hard disk.

Calibrating the Touchscreen

The touchscreen is pre-calibrated for accurate touch response.

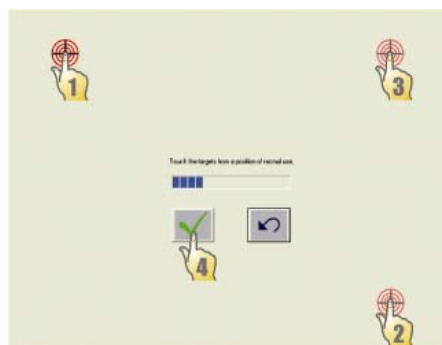
If for any reason the touchscreen needs to be recalibrated, right-click the Elo icon in the Taskbar and then click “Properties.” The following window opens.

NOTE: *Calibration is not applicable on projective capacitive touchscreen models.*

NOTE: *OS and touchscreen drivers must be installed for Elo icon to appear in the Taskbar*



Click the **Align** button. This launches the calibration program. The window shown below opens. Follow the instructions to calibrate the touchscreen.



Securing the M-Series AIO to a Mounting Bracket

Use the four pre-tapped holes to secure the touchcomputer to the mounting bracket. The holes are designed to work with ISO metric M4 screws. Mounting screws are not included. Select the length screw that will provide adequate thread engagement to provide a reliable connection to the mounting bracket. The correct length screw for your application should be commonly available at a hardware store. Refer to the figure below for the location of the 4 holes.

Mounting Diagram



2

OPERATION

This chapter describes the user button functions and I/O panel.

All adjustments made to the user buttons are reset upon a power cycle to the touchcomputer.

User Buttons

User buttons are capacitive buttons. Use of finger or appropriate stylus is required for proper function.



Power Button

The power button function is different depending on the state of the touchcomputer.

- When the touchcomputer is booted into an operating system the power button will turn off and on the display backlight
- When the touchcomputer is in a sleep state such as hibernate the power button will wake up the system
- After an operating system shutdown event occurs and power is still applied to the touchcomputer the power button will boot the computer.



Reading Light Function

Touch the reading light icon and use the +/- function adjustment icons to adjust the intensity. Current setting is displayed between +/- icons.



Night Light Function

Touch the night light icon and use the +/- function adjustment icons to adjust the intensity. Current setting is displayed between +/- icons.



Screen Brightness Function

Touch the screen brightness icon and use the +/- function adjustment icons to adjust the intensity. Current setting is displayed in-between +/- icons.



Audio Volume Function

Touch the audio volume icon and use the +/- function adjustment icons to adjust the intensity. Current setting is displayed in-between +/- icons.



Function Adjustment

The function adjustment icons are illuminated when enabled. Touching one of the function icons will enable the function adjustment symbols and display the current setting on the dots between the +/- symbols.

Use the “-” symbol to decrease the intensity of the function and use the “+” symbol to increase the intensity of the function. The current setting will be immediately updated and saved.

After a short time the selected function will become deselected. Other functions can be selected before the current function is deselected.



+



Computer Shutdown

Press and hold the volume icon and the power button icon for 3 seconds to hard shutdown the computer. The icons will blink to confirm.

The power button can be used to turn the computer back on.

Using the Input/Output Panel

To access the input/output (I/O) ports, remove the cable cover on left side of the back of the unit.

Install the I/O cables in the respective ports and use plastic cable ties to fasten the cables to the cable restraints shown below.

Below are the I/O descriptions and location of the cable restraints:



Note: As a safety precaution, always leave the cable cover attached when the system is powered on.

OPTIONS AND UPGRADES

Peripherals and Accessories

The following peripherals and accessories are available for the M-Series touchcomputers.

- Magnetic stripe reader (MSR)*
- Wireless adapter
- Solid State Drive (SSD)*
- Webcam
- Barcode Scanner (2D area array)*
- Smart Card Reader*
- RFID Reader*
- USB Handset*
- TV Tuner*
- 3 Meter DC extension cable*
- AC Cable*

* Optional Accessory

Note: Software drivers and applications for all peripherals are available upon request

Magnetic Stripe Reader (MSR)

A magnetic stripe reader (MSR) is an optional M-Series touchcomputer peripheral. Software application and drivers can be found on the web at:

www.elotouch.com

The MSR is a USB 2.0 device that reads all three data stripes on standard credit cards or driver's licenses conforming to ISO/ANSI standards. The MSR has foreign language capability. The card is read by sliding it through the guide with the magnetic stripe facing up when placed in the guide in the front of the M-Series product.

The MSR features are:

- Reads up to 3 tracks of information
- Bi-directional swipe reading
- Superior reading of high jitter, scratched, and worn MagStripe cards
- Reliable for over 1,000,000 card swipes
- Reads ISO7811, AAMVA, and most other card data formats
- PC software makes configuration changes easy
- Swipe speeds from 3 to 60 inches per second
- Interfaces: USB-KB and USB-HID
- Fully supports USB 2.0

Wireless Card

A wireless adapter is a standard peripheral in the M-Series touchcomputer.

Typical specifications for the wireless card are:

- Mini PCI-E module
- IEEE 802.11 a/b/g/n compliant

Solid State Drive

A solid state drive can be used to replace the original hard disk drive. This addition provides additional performance and is more mechanically reliable in harsh environments.

Access to the original hard disk drive is through the right side cover on the back of the M-Series touchcomputer.

Part number: E520117

Webcam

An integrated webcam is included in every M-Series touchcomputer. The Webcam module is a USB-powered device that includes a 2.0 megapixel camera. This webcam is capable of 2.0MP video at 5fps. This webcam can run on the drivers that are already preset in many popular operating systems.

Webcam module specifications are shown in the table below:

Feature	Description
2.0MP Webcam w/2 x Digital Microphone	2 Million Pixel Webcam Module
USB Type	1.0, 1.1 or 2.0
Video Resolution	1600x1200, 1280x1024, 640x480, 352x388, 320x240, 176x144, 160x120

Auto Frame Rate	5fps max @ 2.0 megapixels (1600x1200); 24fps max @ VGA mode (640x480)
Field Of View (FOV)	66°
Focus Range	40cm ~ Infinity

Barcode Scanner

A 2D area array barcode scanner is an optional M-Series touchcomputer peripheral. The barcode scanner has integrated illumination and is compatible with many barcode symbologies.

The barcode scanner supports a typical reading range shown in the table below.

Symbology / X-Dim	Typical Range*
100% U.P.C.	46 mm to 419 mm (1.8" to 16.5")
5 mil Code 39	64 mm - 163 mm (2.5" - 6.4")
10 mil Code 39	28 mm - 338 mm (1.1" - 13.3")
6.7 mil PDF417	46 mm - 185 mm (1.8" - 7.3")
10 mil Data Matrix	53 mm - 203 mm (2.1" - 8.0")
Resolution, linear bar codes: 0.127 mm (5.0 mil) Resolution, 2D matrix codes: 0.169 mm (6.7 mil)	
* Performance may be impacted by bar code quality and environmental conditions	

Smart Card Reader

A contact smart card reader is an optional M-Series touchcomputer peripheral.

The smart card reader supports ISO 7816 microprocessor or memory cards.



RFID Reader

An RFID reader is an optional M-Series touchcomputer peripheral.

If installed, the RFID reader is capable of reading tags presented within a few centimeters of the symbol shown below on the front of M-Series touchcomputer.



Compatible RFID standards are shown below:

- 14443A Mifare Classic
- 14443A Mifare Desfire
- 15693 ICODE

USB Handset

A USB Handset is an optional M-Series touchcomputer peripheral. Included in the kit is a bracket and handset cradle that is required for correct function.

Part number: E709063

TV Tuner

A USB TV Tuner kit is available as an optional accessory. There are three options available. All options include a 1.2 meter USB extension cable that can be plugged into the I/O area under the cable cover so that the TV Tuner can be installed outside of the M-Series device.

- Japan TV Tuner Kit that supports the ISDB standard

Part number: E421980

- Europe TV Tuner Kit that supports the DVB standard

Part number: E378259

- United States TV Tuner Kit that supports the ATSC standard

Part number: E177386

3 Meter DC extension cable

A 3 Meter DC extension cable can be used to replace the original 5 Meter DC extension cable.

Part number: E175539

AC Cable

A country specific AC cable can be used to replace the original AC Cable. There are two options.

- UK-HK 1.8 Meter AC cable

Part number: E010063

- Japan 1.8 Meter AC cable

Part number: E520117

SAFETY AND MAINTENANCE

Safety

Important information regarding the proper setup and maintenance of your touchcomputer:

- To reduce the risk of electric shock, follow all safety notices and never open the touchcomputer case.
- Turn off the product before cleaning (refer to “Care and Handling” on page 17 for proper cleaning methods).
- Your touchcomputer is equipped with a 3-wire, grounding power cord. The power cord plug only fits into a grounded outlet. Do not attempt to fit the plug into an outlet that has not been configured for this purpose. Do not use a damaged power cord. Only use the power cord that comes with your Elo Touch Solutions touchcomputer. Use of an unauthorized power cord might invalidate your warranty.
- The slots located on the sides and top of the touchcomputer case are for ventilation. Do not block or insert anything inside the ventilation slots.
- It is important that your touchcomputer remains dry. Do not pour liquid into or onto your touchcomputer. If your touchcomputer becomes wet, do not attempt to repair it yourself. Contact Elo Touch Solutions Customer Service for instructions.
- Guidance and manufacturer’s declaration-electromagnetic immunity for all EQUIPMENT AND SYSTEMS reports are available upon request.

Care and Handling

The following tips help keep your touchcomputer functioning at the optimal level.

Power down the unit and disconnect from the electrical mains prior to engaging in any cleaning activities.

Take care to ensure no leakage of solution into the system. IF ANY FLUID INGRESS INTO THE UNIT DURING CLEANING IS SUSPECTED, DO NOT POWER ON THE UNIT. Call the manufacturer at the contact numbers listed below to have your unit inspected by a qualified technician prior to powering on.

Careful application of dilute aqueous cleaning solutions (non-ammonia based) according to directions is recommended. Do not spray cleaning solution directly onto touchscreen; always use a cloth or towel that has been lightly pre-moistened with cleaning solution.

Do not use organic solvents (e.g., turpentine, varsol, and benzene), abrasive cleansers or compressed air to clean touchscreen displays or touchcomputer.

For disinfection, careful application of alcohol-based disinfectants or branded commercially available quaternary ammonium compounds (e.g., PRO-SANTM brand, TB QuatTM brand, etc.) is recommended. Use as little as practicable to reduce the risk of fluid ingress into the unit.



Warning

This product consists of devices that might contain mercury, which must be recycled or disposed of in accordance with local, state, or federal laws. (Within this system, the backlight lamps in the touchcomputer display contain mercury.)

TECHNICAL SUPPORT TECHNICAL SPECIFICATIONS

Touchcomputer Specifications

For touch computer specifications go to www.elotouch.com

NOTE: *Not all operating systems or options are supported in all regions. Please contact your local Elo TouchSystems representative for details.*

Technical Assistance

There are three methods to obtain contact information for technical assistance on the touchcomputer:

- The web
- The phone

Using the Web

For technical support, go to www.elotouch.com/go/contactsupport.

For current Elo news, product updates, and announcements, or to register to receive our Touchcomputer newsletter, go to www.elotouch.com/go/news.

Using the Phone

For technical support, see the table at the end of the user guide for contact information.

REGULATORY INFORMATION

I. Electrical Safety Information

A) Compliance is required with respect to the voltage, frequency, and current requirements indicated on the manufacturer's label. Connection to a different power source than those specified herein may result in improper operation, damage to the equipment, invalidation of warranty, or a fire hazard if the requirements are not followed.

B) There are no operator-serviceable parts inside this equipment. There are hazardous voltages generated by this equipment which constitute a safety hazard. Service should be provided only by a qualified service technician.

C) This equipment is provided with a detachable power cord which has an integral safety ground wire intended for connection to a grounded safety outlet.

1) Do not substitute the cord with other than the provided approved type. Under no circumstances should an adapter plug be used to connect to a 2-wire outlet as this will defeat the continuity of the grounding wire.

2) The equipment requires the use of the ground wire as a part of the safety certification. Modification or misuse can provide a shock hazard that can result in serious injury or death.

3) Contact a qualified electrician or the manufacturer if there are questions about the installation prior to connecting the equipment to main power.

II. Emissions and Immunity Information

A) Notice to Users in the United States: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

B) Notice to Users in Canada: This equipment complies with the Class A limits for radio noise emissions from digital apparatus as established by the Radio Interference Regulations of Industry Canada.

C) Notice to Users in the European Union: Use only the provided power cords



and interconnecting cabling provided with the equipment. Substitution of provided cords and cabling may compromise electrical safety or CE Mark Certification for emissions or immunity as required by the following standards:

This Electronic Equipment is required to have a CE Mark on the manufacturer's label which means that the equipment has been tested to the following Directives and Standards: This equipment has been tested to the requirements for the CE Mark as required by EMC 2004/108/EC and LVD 2006/95/EC indicated in European Standards EN55022, EN55024, and EN60950-1, as well as these standards for medical electrical equipment. EN 60601-1 and EN60601-1-2 (including EN55011 Class A).

- D) General Information to all Users: This equipment generates, uses and can radiate radio frequency energy. If not installed and used according to this manual the equipment may cause interference with radio and television communications. There is, however, no guarantee that interference will not occur in any particular installation due to site-specific factors.

1) In order to meet emission and immunity requirements, the user must observe the following:

- a) Use only the provided I/O cables to connect this digital device with any computer.
- b) To ensure compliance, use only the provided manufacturer's approved line cord.
- c) The user is cautioned that changes or modifications to the equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2) If this equipment appears to cause interference with radio or television reception, or any other device:

- a) Verify as an emission source by turning the equipment off and on.
- b) If you determine that this equipment is causing the interference, try to correct the interference by using one or more of the following measures:
 - i) Move the digital device away from the affected receiver.
 - ii) Reposition (turn) the digital device with respect to the affected receiver.
 - iii) Plug the digital device into a different AC outlet so the digital device and the receiver are on different branch circuits.
 - iv) Disconnect and remove any I/O cables that the digital device does not use. (Unterminated I/O cables are a potential



source of high RF emission levels.)

- v) Plug the digital device into only a grounded outlet receptacle. Do not use AC adapter plugs. (Removing or cutting the line cord ground may increase RF emission levels and may also present a lethal shock hazard to the user.)

If you need additional help, consult your dealer, manufacturer, or an experienced radio or television technician.

Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: *Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.*

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.



Exposure to radio frequency radiation

The radiated output power of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device shall be used in such a manner that the potential for human contact during normal operation is minimized.

In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

Industry Canada statement

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Radiation Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This Class A digital apparatus complies with Canadian ICES-003.

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Déclaration d'exposition aux radiations

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.



Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

EN 60950-1: 2006+A11: 2009+A1: 2010+A12: 2011
Safety of Information Technology Equipment

EN 50364: 2010
Limitation of human exposure to electromagnetic fields from devices operating in the frequency range 0 Hz to 300 GHz, used in Electronic Article Surveillance (EAS), Radio Frequency Identification (RFID) and similar applications

EN 62479: 2010
Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)

EN 300 328 V1.7.1: 2006
Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

EN 302 291-1 V1.1.1: 2005
Electromagnetic compatibility and Radio spectrum Matters (ERM) - Short Range Devices (SRD) - Close Range Inductive Data Communication equipment operating at 13,56 MHz - Part 1: Technical characteristics and test methods (Endorsement of the English version EN 302291-1 V1.1.1 (2005-07) as German standard)

EN 302 291-2 V1.1.1: 2005
Electromagnetic compatibility and Radio spectrum Matters (ERM) - Short Range Devices (SRD) - Close Range Inductive Data Communication equipment operating at 13,56 MHz - Part 2: Harmonized EN under article 3.2 of the R&TTE Directive (Endorsement of the English version EN 302291-2 V1.1.1(2005-07) as German standard)

EN 301 489-1 V1.8.1: 2008
Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements










EN 301 489-3 V1.4.1: 2002
Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 40 GHz

EN 301 489-17 V2.1.1 2009









Electromagnetic compatibility and Radio spectrum Matters (ERM);
ElectroMagnetic Compatibility (EMC) standard for radio equipment and
services; Part 17: Specific conditions for 2,4 GHz wideband transmission
systems and 5 GHz high performance RLAN equipment

This device is a wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

 Český [Czech]	Elo Touch Solutions, Inc. tímto prohlašuje, že tento 15MX/19MX Touchcomputer je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
 Dansk [Danish]	Undertegnede Elo Touch Solutions, Inc. erklærer herved, at følgende udstyr 15MX/19MX Touchcomputer overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
 Deutsch [German]	Hiermit erklärt Elo Touch Solutions, Inc., dass sich das Gerät 15MX/19MX Touchcomputer in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
 Eesti [Estonian]	Käesolevaga kinnitab Elo Touch Solutions, Inc. seadme 15MX/19MX Touchcomputer vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
 English	Hereby, Elo Touch Solutions, Inc., declares that this 15MX/19MX Touchcomputer is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
 Español [Spanish]	Por medio de la presente Elo Touch Solutions, Inc. declara que el 15MX/19MX Touchcomputer cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
 Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Elo Touch Solutions, Inc. ΔΗΛΩΝΕΙ ΟΤΙ 15MX/19MX Touchcomputer ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/EK.
 Français [French]	Par la présente Elo Touch Solutions, Inc. déclare que l'appareil 15MX/19MX Touchcomputer est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
 Italiano [Italian]	Con la presente Elo Touch Solutions, Inc. dichiara che questo 15MX/19MX Touchcomputer è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo Elo Touch Solutions, Inc. deklarē, ka 15MX/19MX Touchcomputer atbilst Direktīvas 1999/5/EK būtiskajām prasībām un



	citētiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo Elo Touch Solutions, Inc. deklaruojama, kad šis 15MX/19MX Touchcomputer atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
 Nederlands [Dutch]	Hierbij verklaart Elo Touch Solutions, Inc. dat het toestel 15MX/19MX Touchcomputer in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
 Malti [Maltese]	Hawnhekk, Elo Touch Solutions, Inc., jiddikjara li dan 15MX/19MX Touchcomputer jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn rilevanti li hemm fid-Direttiva 1999/5/EC.
 Magyar [Hungarian]	Alulírott, Elo Touch Solutions, Inc. nyilatkozom, hogy a 15MX/19MX Touchcomputer megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
 Polski [Polish]	Niniejszym Elo Touch Solutions, Inc. oświadcza, że 15MX/19MX Touchcomputer jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
 Português [Portuguese]	Elo Touch Solutions, Inc. declara que este 15MX/19MX Touchcomputer está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
 Slovensko [Slovenian]	Elo Touch Solutions, Inc. izjavlja, da je ta 15MX/19MX Touchcomputer v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	Elo Touch Solutions, Inc. týmto vyhlasuje, že 15MX/19MX Touchcomputer spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
 Suomi [Finnish]	Elo Touch Solutions, Inc. vakuuttaa täten että 15MX/19MX Touchcomputer tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
 Svenska [Swedish]	Härmed intygar Elo Touch Solutions, Inc. att denna 15MX/19MX Touchcomputer står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

III. Agency Certifications

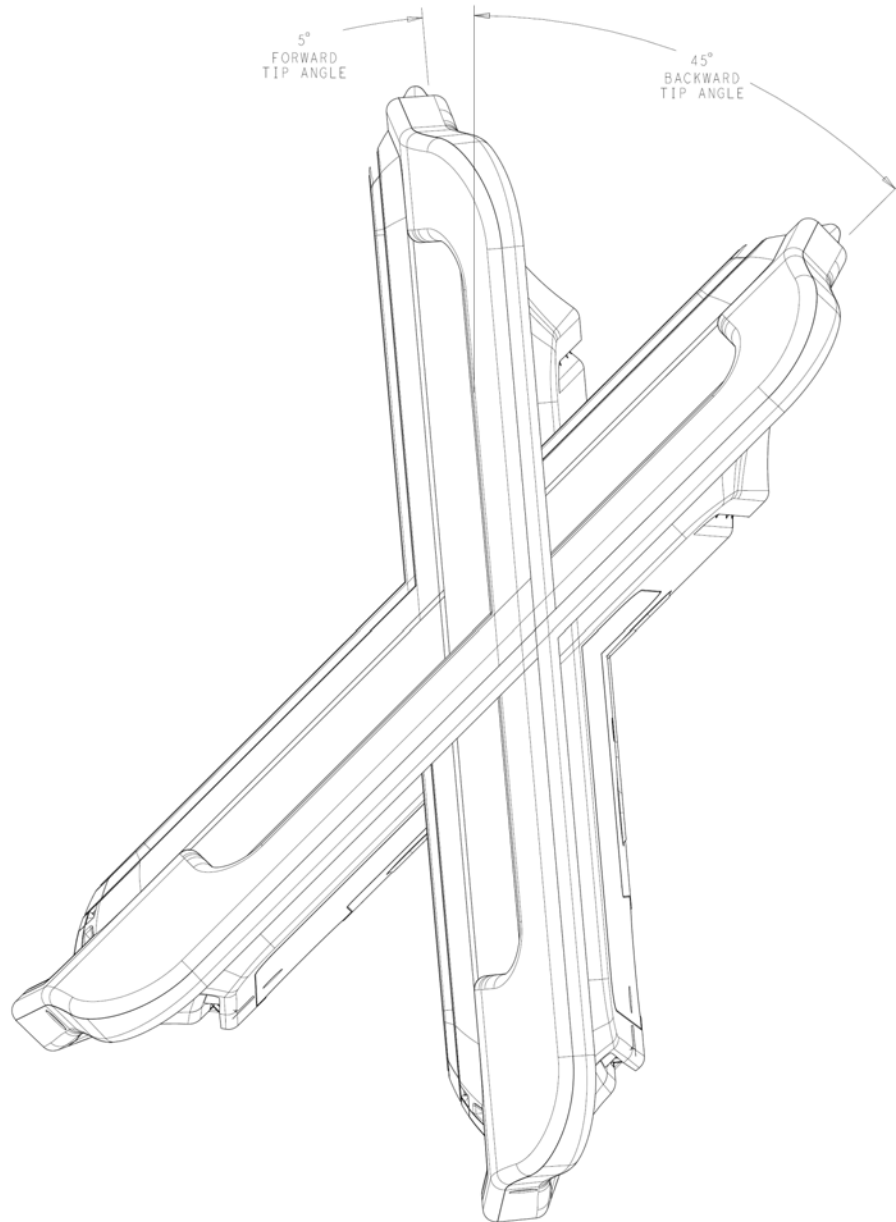
The following certifications have been issued for the touchcomputer:

- Canada cUL
- Canada IC
- Europe TUV, CE
- Japan VCCI
- FCC
- United States UL
- Russia GOST-R



IV. Ingress Protection

The 15MX/19MX Touchcomputer is designed to have an ingress protection rating of IP21 over the range of angles shown in the diagram below.



WARRANTY

Except as otherwise stated herein or in an order acknowledgment delivered to Buyer, Seller warrants to Buyer that the Product shall be free of defects in materials and workmanship. With the exception of the negotiated warranty periods; the warranty for the touchcomputer and components of the product is 3 years.

Seller makes no warranty regarding the model life of components. Seller's suppliers may at any time and from time to time make changes in the components delivered as Products or components. Buyer shall notify Seller in writing promptly (and in no case later than thirty (30) days after discovery) of the failure of any Product to conform to the warranty set forth above; shall describe in commercially reasonable detail in such notice the symptoms associated with such failure; and shall provide to Seller the opportunity to inspect such Products as installed, if possible. The notice must be received by Seller during the Warranty Period for such product, unless otherwise directed in writing by the Seller. Within thirty (30) days after submitting such notice, Buyer shall package the allegedly defective Product in its original shipping carton(s) or a functional equivalent and shall ship to Seller at Buyer's expense and risk.

Within a reasonable time after receipt of the allegedly defective Product and verification by Seller that the Product fails to meet the warranty set forth above, Seller shall correct such failure by, at Seller's options, either (i) modifying or repairing the Product or (ii) replacing the Product. Such modification, repair, or replacement and the return shipment of the Product with minimum insurance to Buyer shall be at Seller's expense. Buyer shall bear the risk of loss or damage in transit, and may insure the Product. Buyer shall reimburse Seller for transportation cost incurred for Product returned but not found by Seller to be defective. Modification or repair, of Products may, at Seller's option, take place either at Seller's facilities or at Buyer's premises. If Seller is unable to modify, repair, or replace a Product to conform to the warranty set forth above, then Seller shall, at Seller's option, either refund to Buyer or credit to Buyer's account the purchase price of the Product less depreciation calculated on a straight-line basis over Seller's stated Warranty Period.

THESE REMEDIES SHALL BE THE BUYER'S EXCLUSIVE REMEDIES FOR BREACH OF WARRANTY. EXCEPT FOR THE EXPRESS WARRANTY SET FORTH ABOVE, SELLER GRANTS NO OTHER WARRANTIES, EXPRESS OR IMPLIED BY STATUTE OR OTHERWISE, REGARDING THE PRODUCTS, THEIR FITNESS FOR ANY PURPOSE, THEIR QUALITY, THEIR MERCHANTABILITY, THEIR NONINFRINGEMENT, OR OTHERWISE. NO EMPLOYEE OF SELLER OR ANY OTHER PARTY IS AUTHORIZED TO MAKE ANY WARRANTY FOR THE GOODS OTHER THAN THE WARRANTY SET FORTH HEREIN. SELLER'S LIABILITY UNDER THE WARRANTY SHALL BE LIMITED TO A REFUND OF THE PURCHASE PRICE OF THE PRODUCT. IN NO EVENT SHALL SELLER BE LIABLE FOR THE COST OF PROCUREMENT OR INSTALLATION OF SUBSTITUTE GOODS BY BUYER OR FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT, OR INCIDENTAL DAMAGES.

Buyer assumes the risk and agrees to indemnify Seller against and hold Seller harmless from all liability relating to (i) assessing the suitability for Buyer's intended use of the Products and of any system design or drawing and (ii) determining the compliance of Buyer's use of the Products with applicable laws, regulations, codes, and standards. Buyer retains and accepts full responsibility for all warranty and other claims relating to or arising from Buyer's products, which include or incorporate Products or components manufactured or supplied by Seller. Buyer is solely responsible for any and all representations and warranties regarding the Products made or authorized by Buyer. Buyer will indemnify Seller and hold Seller harmless from any liability, claims, loss, cost, or expenses (including reasonable attorney's fees) attributable to Buyer's products or representations or warranties concerning same.

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To find out more about the extensive range of Elo touch solutions, visit www.elotouch.com or simply call the office nearest you:

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